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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Michael E. Moseley, et al.	Examiner:	Roy, Baisakhi
Serial No.	09.606,137	Group Art Unit:	3737
Filed:	June 28, 2000	Docket No.	500.003US1
Title:	IMAGING METHOD FOR VISUALIZING IMPLANTED LIVING CELLS		

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

The following documents are hereby submitted:

☒ Alternative Replacement CLAIMS APPENDIX for Appeal Brief to the Board of Patent Appeals and Interferences of the United States Patent and Trademark Office (two sets, each 8 pages long)
☒ Transmittal Sheet
☒ Return Postcard

The fee for the Appeal Brief was paid for when the original Appeal Brief, dated September 23, 2003, was submitted to the USPTO. Please consider this a PETITION FOR EXTENSION OF TIME for sufficient number of months to enter these papers if an additional extension of time is deemed necessary by the Office. Authorization is hereby given to charge Deposit Account Number 50-1391 if such additional extension is necessary.

Appellants have reviewed the originally submitted Brief on Appeal and found that all claims HAD been identified. Appellants hereby submit alternative nomenclature for the Claims Appendix, if that was the basis for the objection. The PTO may select whatever format of claims is felt to be best acceptable to them.

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CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described herein, are being deposited in the United States Postal Service, as first class mail, with sufficient postage, in an envelope addressed to: Mail Stop Appeal Brief – Patents, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450 on 23 November 2007

Mark A. Litman
Name

_____
Signature

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APPENDIX CLAIM SET ONE

CLAIMS APPENDIX

1 - 4 (CANCELLED)

5. (PREVIOUSLY PRESENTED) A method for indicating viability of transplanted progenitor or stem cells grown in a culture, the method being performed with a medical device that supports at least one sensing function, the method comprising:

non-destructively observing a region of a patient to where progenitor or stem cells grown in a culture cells have been transplanted;

sensing a property within said region of a patient that is indicative of cell viability or inviability of transplanted progenitor or stem cells grown in a culture; and

using data from sensing said property within said region to indicate cell viability from a transplant of progenitor or stem cells grown in a culture within the region wherein said cell viability is indicated by a property in cell chemistry resulting from an event selected from the group consisting of cell activity, cell inactivity, cell growth, cell death, specific cell function, specific cell dysfunction, volumetric expansion of cell population, and volumetric decrease of cell population.

6. (PREVIOUSLY PRESENTED) A method for indicating viability of transplanted progenitor or stem cells grown in a culture, the method being performed with a medical device that supports at least one sensing function, the method comprising:

non-destructively observing a region of a patient to where progenitor or stem cells grown in a culture cells have been transplanted;

sensing a property within said region of a patient that is indicative of cell viability or inviability of transplanted progenitor or stem cells grown in a culture; and
using data from sensing said property within said region to indicate cell viability from a transplant of progenitor or stem cells grown in a culture within the region, wherein said non-destructively observing comprises magnetic resonance imaging and wherein said cell viability is indicated by a property in cell chemistry resulting from an event selected from the group consisting of cell activity, cell inactivity, cell growth, cell death, specific cell function, specific cell dysfunction, volumetric expansion of cell population, and volumetric decrease of cell population.

7. (PREVIOUSLY PRESENTED) A method for indicating viability of transplanted progenitor or stem cells grown in a culture, the method being performed with a medical device that supports at least one sensing function, the method comprising:

non-destructively observing a region of a patient to where progenitor or stem cells grown in a culture cells have been transplanted;

sensing a property within said region of a patient that is indicative of cell viability or nonviability of transplanted progenitor or stem cells grown in a culture; and

using data from sensing said property within said region to indicate cell viability from a transplant of progenitor or stem cells grown in a culture within the region wherein said property is monitored by observation of at least one parameter selected from the group consisting of local lactate levels, local glucose turnover, local phosphorous high-energy metabolite concentrations, local F-19 labeled metabolites, alterations in tissue sodium, and changes in the conversion rates of O_2 gas to H_2O water.

8. CANCELLED

9. (PREVIOUSLY PRESENTED) The method of claim 6 wherein said property is monitored by observation of at least one parameter selected from the group consisting of local lactate levels, local glucose turnover, local phosphorous high-energy metabolite concentrations, local F-19 labeled metabolites, alterations in tissue sodium, and changes in the conversion rates of O_2 gas to H_2O water.

10. CANCELLED

11. (PREVIOUSLY PRESENTED) The method of claim 5 wherein said property is monitored by at least one technique selected from the group consisting of proton spectroscopy, monitoring of C-13 labeled glucose, monitoring by P-31 MR spectroscopy, monitoring of local F-19 labeled metabolites, monitoring of Na-23 levels, and monitoring of $17O_2$ gas conversion to H_217O water.

12. (ORIGINAL) The method of claim 6 wherein said property is monitored by at least

one technique selected from the group consisting of proton spectroscopy, monitoring of C-13 labeled glucose, monitoring by P-31 MR spectroscopy, monitoring of local F-19 labeled metabolites, monitoring of Na-23 levels, and monitoring of $17O_2$ gas conversion to H_217O water.

13. (PREVIOUSLY PRESENTED) The method of claim 5 wherein said medical device includes at least one element selected from the group consisting of a volume coil surrounding the tissue and a local multi-tuned MRI RF coil.

14. (PREVIOUSLY PRESENTED) The method of claim 6 wherein said medical device includes at least one element selected from the group consisting of a volume coil surrounding the tissue and a local multi-tuned MRI RF coil.

15. (ORIGINAL) The method of claim 9 wherein said medical device includes at least one element selected from the group consisting of a volume coil surrounding the tissue and a local multi-tuned MRI RF coil.

16. (ORIGINAL) The method of claim 12 wherein said medical device includes at least one element selected from the group consisting of a volume coil surrounding the tissue and a local multi-tuned MRI RF coil.

17. (PREVIOUSLY PRESENTED) A method for indicating viability of transplanted progenitor or stem cells grown in a culture, the method being performed with a medical device that supports at least one sensing function, the method comprising:

non-destructively observing a region of a patient to where progenitor or stem cells grown in a culture cells have been transplanted;

sensing a property within said region of a patient that is indicative of cell viability or inviability of transplanted progenitor or stem cells grown in a culture; and

using data from sensing said property within said region to indicate cell viability from a transplant of progenitor or stem cells grown in a culture within the region wherein said property comprises blood flow or changes in blood flow as vascular supply is developed.

18. (PREVIOUSLY PRESENTED) The method of claim 17 wherein said non-destructively observing comprises magnetic resonance imaging and said property comprises blood flow or changes in blood flow as vascular supply is developed.

19. (PREVIOUSLY PRESENTED) The method of claim 17 wherein said property is monitored by observation of at least one parameter selected from the group consisting of local lactate levels, local glucose turnover, local phosphorous high-energy metabolite concentrations, local F-19 labeled metabolites, alterations in tissue sodium, and changes in the conversion rates of O_2 gas to H_2O water said property comprises blood flow or changes in blood flow as vascular supply is developed.

20. (ORIGINAL) The method of claim 17 wherein blood flow or changes in blood flow are measured by observation of at least one material selected from the group consisting of labeled H_2O water, contrast-agent infusion of TI-shortening agents or T2*-shortening agents, local introduction of hyperpolarized Xenon gas, or optically-active coloring agents.

21. (ORIGINAL) The method of claim 18 wherein blood flow or changes in blood flow are measured by observation of at least one material selected from the group consisting of labeled H_2O water, contrast-agent infusion of TI-shortening agents or T2*-shortening agents, local introduction of hyperpolarized Xenon gas, or optically-active coloring agents.

22. (ORIGINAL) The method of claim 19 wherein blood flow or changes in blood flow are measured by observation of at least one material selected from the group consisting of labeled H_2O water, contrast-agent infusion of TI-shortening agents or T2*-shortening agents, local introduction of hyperpolarized Xenon gas, or optically-active coloring agents.

23. (PREVIOUSLY PRESENTED) A method for indicating viability of transplanted

progenitor or stem cells grown in a culture, the method being performed with a medical device that supports at least one sensing function, the method comprising:

non-destructively observing a region of a patient to where progenitor or stem cells grown in a culture cells have been transplanted;

sensing a property within said region of a patient that is indicative of cell viability or inviability of transplanted progenitor or stem cells grown in a culture; and

using data from sensing said property within said region to indicate cell viability from a transplant of progenitor or stem cells grown in a culture within the region wherein said non-destructively observing comprises magnetic resonance imaging and said property comprises anisotropic water diffusion.

24. (PREVIOUSLY PRESENTED) The method of claim 5 wherein said property comprises the local concentrations of at least one of choline, NAA, GABA, phosphocholine, and creatine.

25. (PREVIOUSLY PRESENTED) The method of claim 6 wherein the property is selected from the group consisting of a) local tissue density and cell populations, b) local electrical activity, c) local oxygenated/deoxygenated hemoglobin and changes in the local T2* reflecting the alterations in tissue oxygenation, d) changes in the vascular reserve and response to oxygenation stresses, e) tissue fluorescence and bioluminescence, f) tissue fluorescence and bioluminescence, g) electrical impedance, and h) local tissue temperature.

26. (PREVIOUSLY PRESENTED) The method of claim 5 wherein the property is selected from the group consisting of a) local tissue density and cell populations, b) local electrical activity, c) local oxygenated/deoxygenated hemoglobin and changes in the local T2* reflecting the alterations in tissue oxygenation, d) changes in the vascular reserve and response to oxygenation stresses, e) tissue fluorescence and bioluminescence, f) tissue fluorescence and bioluminescence, g) electrical impedance, and h) local tissue temperature.

27. (CANCELLED)

28. (CANCELLED)

29. (PREVIOUSLY PRESENTED) A method for indicating viability of transplanted progenitor or stem cells grown in a culture, said method being performed with a medical device that supports at least one sensing function comprising:

non-destructively observing a region of a patient to where progenitor or stem cells grown in a culture have been transplanted;

sensing a property within said region of a patient that is indicative of cell metabolism;

repeating or continuing said sensing of a property over a period of time in which said property changes; and

using data from sensing changes in said property within said region to indicate cell viability from a transplant of progenitor or stem cells grown in a culture within the region, wherein said data from sensing changes in said property indicates active metabolic function in transplanted cells, and wherein changes in said property are monitored by at least one technique selected from the group consisting of proton spectroscopy, monitoring of C-13 labeled glucose, monitoring by P-31 MR spectroscopy, monitoring of local F-19 labeled metabolites, monitoring of Na-23 levels, and monitoring of $17O_2$ gas conversion to H_217O water.

30 - 53 (CANCELLED)

54. (PREVIOUSLY PRESENTED) The method of claim 5 wherein the sensing of a property within said region of a patient that is indicative of cell viability or inviability of the implanted colony of cells is used to quantitate the cell viability.

55. (PREVIOUSLY PRESENTED) The method of claim 6 wherein the sensing of a property within said region of a patient that is indicative of cell viability or inviability of the implanted colony of cells is used to quantitate the cell viability.

56. (PREVIOUSLY PRESENTED) The method of claim 7 wherein the sensing of a property within said region of a patient that is indicative of cell viability or inviability of the implanted colony of cells is used to quantitate the cell viability.

57. (PREVIOUSLY PRESENTED) The method of claim 17 wherein the sensing of a property within said region of a patient that is indicative of cell viability or inviability of the implanted colony of cells is used to quantitate the cell viability.

58. (PREVIOUSLY PRESENTED) The method of claim 19 wherein the sensing of a property within said region of a patient that is indicative of cell viability or inviability of the implanted colony of cells is used to quantitate the cell viability.

59. (PREVIOUSLY PRESENTED) A method for indicating viability of transplanted progenitor or stem cells, the method being performed with a medical device that supports at least one sensing function, the method comprising:

non-destructively observing a region of a patient to where progenitor or stem cells have been transplanted;

sensing a property within said region of a patient that is indicative of cell viability or inviability of transplanted progenitor or stem cells; and

using data from sensing said property within said region to indicate cell viability from a transplant of progenitor or stem cells within the region wherein said cell viability is indicated by a property in cell chemistry resulting from an event selected from the group consisting of cell activity, cell inactivity, cell growth, cell death, specific cell function, specific cell dysfunction, volumetric expansion of cell population, and volumetric decrease of cell population.

60. (PREVIOUSLY PRESENTED) The method of claim 6 wherein the sensing of a property within said region of a patient that is indicative of cell viability or nonviability of the implanted cells is performed quantitatively and said quantitative sensing is used to quantitate the viability of the implanted cells.

61. (PREVIOUSLY PRESENTED) The method of claim 7 wherein the sensing of a property within said region of a patient that is indicative of cell viability or nonviability of the implanted cells is performed quantitatively and said quantitative sensing is used to quantitate the viability of the implanted cells.

62. (PREVIOUSLY PRESENTED) The method of claim 17 wherein the sensing of a property within said region of a patient that is indicative of cell viability or nonviability of the implanted cells is performed quantitatively and said quantitative sensing is used to quantitate the viability of the implanted cells.

63. (PREVIOUSLY PRESENTED) The method of claim 19 wherein the sensing of a property within said region of a patient that is indicative of cell viability or nonviability of the implanted cells is performed quantitatively and said quantitative sensing is used to quantitate the viability of the implanted cells.

64. (PREVIOUSLY PRESENTED) A method for indicating viability of transplanted progenitor or stem cells, the method being performed with a medical device that supports at least one sensing function, the method comprising:

non-destructively observing a region of a patient to where progenitor or stem cells have been transplanted;

sensing a property within said region of a patient that is indicative of cell viability or nonviability of transplanted progenitor or stem cells; and

using data from sensing said property within said region to indicate cell viability from a transplant of progenitor or stem cells within the region wherein said cell viability is indicated by a property in cell chemistry resulting from an event selected from the group consisting of cell activity, cell inactivity, cell growth, cell death, specific cell function, specific cell dysfunction, volumetric expansion of cell population, and volumetric decrease of cell population.

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APPENDIX CLAIM SET TWO

CLAIMS APPENDIX

1 - 4 (CANCELLED)

5. (APPEALED) A method for indicating viability of transplanted progenitor or stem cells grown in a culture, the method being performed with a medical device that supports at least one sensing function, the method comprising:

non-destructively observing a region of a patient to where progenitor or stem cells grown in a culture cells have been transplanted;

sensing a property within said region of a patient that is indicative of cell viability or inviability of transplanted progenitor or stem cells grown in a culture; and

using data from sensing said property within said region to indicate cell viability from a transplant of progenitor or stem cells grown in a culture within the region wherein said cell viability is indicated by a property in cell chemistry resulting from an event selected from the group consisting of cell activity, cell inactivity, cell growth, cell death, specific cell function, specific cell dysfunction, volumetric expansion of cell population, and volumetric decrease of cell population.

6. (APPEALED) A method for indicating viability of transplanted progenitor or stem cells grown in a culture, the method being performed with a medical device that supports at least one sensing function, the method comprising:

non-destructively observing a region of a patient to where progenitor or stem cells grown in a culture cells have been transplanted;

sensing a property within said region of a patient that is indicative of cell viability or inviability of transplanted progenitor or stem cells grown in a culture; and
using data from sensing said property within said region to indicate cell viability from a transplant of progenitor or stem cells grown in a culture within the region, wherein said non-destructively observing comprises magnetic resonance imaging and wherein said cell viability is indicated by a property in cell chemistry resulting from an event selected from the group consisting of cell activity, cell inactivity, cell growth, cell death, specific cell function, specific cell dysfunction, volumetric expansion of cell population, and volumetric decrease of cell population.

7. (APPEALED) A method for indicating viability of transplanted progenitor or stem cells grown in a culture, the method being performed with a medical device that supports at least one sensing function, the method comprising:

non-destructively observing a region of a patient to where progenitor or stem cells grown in a culture cells have been transplanted;

sensing a property within said region of a patient that is indicative of cell viability or nonviability of transplanted progenitor or stem cells grown in a culture; and

using data from sensing said property within said region to indicate cell viability from a transplant of progenitor or stem cells grown in a culture within the region wherein said property is monitored by observation of at least one parameter selected from the group consisting of local lactate levels, local glucose turnover, local phosphorous high-energy metabolite concentrations, local F-19 labeled metabolites, alterations in tissue sodium, and changes in the conversion rates of O_2 gas to H_2O water.

8. CANCELLED

9. (APPEALED) The method of claim 6 wherein said property is monitored by observation of at least one parameter selected from the group consisting of local lactate levels, local glucose turnover, local phosphorous high-energy metabolite concentrations, local F-19 labeled metabolites, alterations in tissue sodium, and changes in the conversion rates of O_2 gas to H_2O water.

10. CANCELLED

11. (APPEALED) The method of claim 5 wherein said property is monitored by at least one technique selected from the group consisting of proton spectroscopy, monitoring of C-13 labeled glucose, monitoring by P-31 MR spectroscopy, monitoring of local F-19 labeled metabolites, monitoring of Na-23 levels, and monitoring of $17O_2$ gas conversion to H_217O water.

12. (APPEALED) The method of claim 6 wherein said property is monitored by at least

one technique selected from the group consisting of proton spectroscopy, monitoring of C-13 labeled glucose, monitoring by P-31 MR spectroscopy, monitoring of local F-19 labeled metabolites, monitoring of Na-23 levels, and monitoring of $17O_2$ gas conversion to H_217O water.

13. (APPEALED) The method of claim 5 wherein said medical device includes at least one element selected from the group consisting of a volume coil surrounding the tissue and a local multi-tuned MRI RF coil.

14. (APPEALED) The method of claim 6 wherein said medical device includes at least one element selected from the group consisting of a volume coil surrounding the tissue and a local multi-tuned MRI RF coil.

15. (APPEALED) The method of claim 9 wherein said medical device includes at least one element selected from the group consisting of a volume coil surrounding the tissue and a local multi-tuned MRI RF coil.

16. (APPEALED) The method of claim 12 wherein said medical device includes at least one element selected from the group consisting of a volume coil surrounding the tissue and a local multi-tuned MRI RF coil.

17. (APPEALED) A method for indicating viability of transplanted progenitor or stem cells grown in a culture, the method being performed with a medical device that supports at least one sensing function, the method comprising:

non-destructively observing a region of a patient to where progenitor or stem cells grown in a culture cells have been transplanted;

sensing a property within said region of a patient that is indicative of cell viability or inviability of transplanted progenitor or stem cells grown in a culture; and

using data from sensing said property within said region to indicate cell viability from a transplant of progenitor or stem cells grown in a culture within the region wherein said property comprises blood flow or changes in blood flow as vascular supply is developed.

18. (APPEALED) The method of claim 17 wherein said non-destructively observing comprises magnetic resonance imaging and said property comprises blood flow or changes in blood flow as vascular supply is developed.

19. (APPEALED) The method of claim 17 wherein said property is monitored by observation of at least one parameter selected from the group consisting of local lactate levels, local glucose turnover, local phosphorous high-energy metabolite concentrations, local F-19 labeled metabolites, alterations in tissue sodium, and changes in the conversion rates of O_2 gas to H_2O water said property comprises blood flow or changes in blood flow as vascular supply is developed.

20. (APPEALED) The method of claim 17 wherein blood flow or changes in blood flow are measured by observation of at least one material selected from the group consisting of labeled H_2O water, contrast-agent infusion of TI-shortening agents or T2*-shortening agents, local introduction of hyperpolarized Xenon gas, or optically-active coloring agents.

21. (APPEALED) The method of claim 18 wherein blood flow or changes in blood flow are measured by observation of at least one material selected from the group consisting of labeled H_2O water, contrast-agent infusion of TI-shortening agents or T2*-shortening agents, local introduction of hyperpolarized Xenon gas, or optically-active coloring agents.

22. (APPEALED) The method of claim 19 wherein blood flow or changes in blood flow are measured by observation of at least one material selected from the group consisting of labeled H_2O water, contrast-agent infusion of TI-shortening agents or T2*-shortening agents, local introduction of hyperpolarized Xenon gas, or optically-active coloring agents.

23. (APPEALED) A method for indicating viability of transplanted progenitor or stem

cells grown in a culture, the method being performed with a medical device that supports at least one sensing function, the method comprising:

non-destructively observing a region of a patient to where progenitor or stem cells grown in a culture cells have been transplanted;

sensing a property within said region of a patient that is indicative of cell viability or inviability of transplanted progenitor or stem cells grown in a culture; and

using data from sensing said property within said region to indicate cell viability from a transplant of progenitor or stem cells grown in a culture within the region wherein said non-destructively observing comprises magnetic resonance imaging and said property comprises anisotropic water diffusion.

24. (APPEALED) The method of claim 5 wherein said property comprises the local concentrations of at least one of choline, NAA, GABA, phosphocholine, and creatine.

25. (APPEALED) The method of claim 6 wherein the property is selected from the group consisting of a) local tissue density and cell populations, b) local electrical activity, c) local oxygenated/deoxygenated hemoglobin and changes in the local T2* reflecting the alterations in tissue oxygenation, d) changes in the vascular reserve and response to oxygenation stresses, e) tissue fluorescence and bioluminescence, f) tissue fluorescence and bioluminescence, g) electrical impedance, and h) local tissue temperature.

26. (APPEALED) The method of claim 5 wherein the property is selected from the group consisting of a) local tissue density and cell populations, b) local electrical activity, c) local oxygenated/deoxygenated hemoglobin and changes in the local T2* reflecting the alterations in tissue oxygenation, d) changes in the vascular reserve and response to oxygenation stresses, e) tissue fluorescence and bioluminescence, f) tissue fluorescence and bioluminescence, g) electrical impedance, and h) local tissue temperature.

27. (CANCELLED)

28. (CANCELLED)

29. (APPEALED) A method for indicating viability of transplanted progenitor or stem cells grown in a culture, said method being performed with a medical device that supports at least one sensing function comprising:

non-destructively observing a region of a patient to where progenitor or stem cells grown in a culture have been transplanted;

sensing a property within said region of a patient that is indicative of cell metabolism;

repeating or continuing said sensing of a property over a period of time in which said property changes; and

using data from sensing changes in said property within said region to indicate cell viability from a transplant of progenitor or stem cells grown in a culture within the region, wherein said data from sensing changes in said property indicates active metabolic function in transplanted cells, and wherein changes in said property are monitored by at least one technique selected from the group consisting of proton spectroscopy, monitoring of C-13 labeled glucose, monitoring by P-31 MR spectroscopy, monitoring of local F-19 labeled metabolites, monitoring of Na-23 levels, and monitoring of $17O_2$ gas conversion to H_217O water.

30 - 53 (CANCELLED)

54. (APPEALED) The method of claim 5 wherein the sensing of a property within said region of a patient that is indicative of cell viability or inviability of the implanted colony of cells is used to quantitate the cell viability.

55. (APPEALED) The method of claim 6 wherein the sensing of a property within said region of a patient that is indicative of cell viability or inviability of the implanted colony of cells is used to quantitate the cell viability.

56. (APPEALED) The method of claim 7 wherein the sensing of a property within said region of a patient that is indicative of cell viability or inviability of the implanted colony of cells is used to quantitate the cell viability.

57. (APPEALED) The method of claim 17 wherein the sensing of a property within said region of a patient that is indicative of cell viability or inviability of the implanted colony of cells is used to quantitate the cell viability.

58. (APPEALED) The method of claim 19 wherein the sensing of a property within said region of a patient that is indicative of cell viability or inviability of the implanted colony of cells is used to quantitate the cell viability.

59. (APPEALED) A method for indicating viability of transplanted progenitor or stem cells, the method being performed with a medical device that supports at least one sensing function, the method comprising:

non-destructively observing a region of a patient to where progenitor or stem cells have been transplanted;

sensing a property within said region of a patient that is indicative of cell viability or inviability of transplanted progenitor or stem cells; and

using data from sensing said property within said region to indicate cell viability from a transplant of progenitor or stem cells within the region wherein said cell viability is indicated by a property in cell chemistry resulting from an event selected from the group consisting of cell activity, cell inactivity, cell growth, cell death, specific cell function, specific cell dysfunction, volumetric expansion of cell population, and volumetric decrease of cell population.

60. (APPEALED) The method of claim 6 wherein the sensing of a property within said region of a patient that is indicative of cell viability or nonviability of the implanted cells is performed quantitatively and said quantitative sensing is used to quantitate the viability of the implanted cells.

61. (APPEALED) The method of claim 7 wherein the sensing of a property within said region of a patient that is indicative of cell viability or nonviability of the implanted cells is performed quantitatively and said quantitative sensing is used to quantitate the viability of the implanted cells.

62. (APPEALED) The method of claim 17 wherein the sensing of a property within said region of a patient that is indicative of cell viability or nonviability of the implanted cells is performed quantitatively and said quantitative sensing is used to quantitate the viability of the implanted cells.

63. (APPEALED) The method of claim 19 wherein the sensing of a property within said region of a patient that is indicative of cell viability or nonviability of the implanted cells is performed quantitatively and said quantitative sensing is used to quantitate the viability of the implanted cells.

64. (APPEALED) A method for indicating viability of transplanted progenitor or stem cells, the method being performed with a medical device that supports at least one sensing function, the method comprising:

non-destructively observing a region of a patient to where progenitor or stem cells have been transplanted;

sensing a property within said region of a patient that is indicative of cell viability or nonviability of transplanted progenitor or stem cells; and

using data from sensing said property within said region to indicate cell viability from a transplant of progenitor or stem cells within the region wherein said cell viability is indicated by a property in cell chemistry resulting from an event selected from the group consisting of cell activity, cell inactivity, cell growth, cell death, specific cell function, specific cell dysfunction, volumetric expansion of cell population, and volumetric decrease of cell population.